

AVIATION

The Oldest American Aeronautical Magazine

JANUARY 4, 1926

Issued Weekly

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Vickers Vernon Troop and Mail Carrier Used in Iraq

VOLUME
XX

SPECIAL FEATURES

NUMBER
1

THE POWELL RACER
AVIATION IN THE RIFF
THE AMERICAN POLAR FLIGHT PROJECT

GARDNER PUBLISHING CO., Inc.
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AVIATION

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WITH THIS, the first issue of 1926 AVIATION, goes to readers in a congratulatory spirit, and with optimistic hopes. May the coming year bring to everyone engaged in aeronautical enterprise, a more abundant life of hope. And may our readers continue to have an increasing reason for their loyalty and appreciation, which even fresh and frequently repeated.

To review the aeronautical events of 1925 would, no doubt, be recounting a story that is already well known. It is not for us to declare that more progress has been made in the last twelve months in every phase of aviation, than in any previous year. Unfortunately, in aviation, the year has not brought the developments that had been confidently expected. But setbacks in any line of progress, are, fortunately, only obstacles that bring greater efforts toward ultimate success.

Aeronautical education will be the proper designation of the outstanding achievement for the year just closed. The governmental agencies, as well as the public, are more fully informed as to the possibilities of flying as well as its limitations, than ever before. The foundation is laid for constructive work in 1926. To this task, immediate consideration should be given so that the greatest results may accrue.

The Bingham Bill

THE FIRST result of the recommendations made by all the organizations in 1925, has been the passage by the Senate of The Bingham Bill to promote and regulate flying in the United States.

This bill differs from all others that have been considered, except the Wadsworth Bill, which also passed the Senate last year, in that it only attempts to regulate commercial enterprise flying, leaving the control of private and aircraft-carrying in air work within the confines of a single state, to local laws or voluntary submission to federal control. This point of difference is all important and, while some of the language used in the bill is somewhat ambiguous, Senator Bingham has intentionally covered the issue, as well as aviation, that the intent of the measure is only to regulate and promote commercial enterprise aviation, making it no ambiguous that all engaged in flying will wish to avoid themselves of the entanglements of this present legislation.

Another departure from previous legislation is in the placing of all supervision in existing bureaus of the Department of Commerce under a 2nd Assistant Secretary, rather than in

a new bureau. This change has the great advantage of integrating the successful operation of aircraft regulation to the Secretary of Commerce and his Assistant, rather than to a minor official. It centralizes responsibility and makes the administration of the law more economical.

The wide discretionary power given to the subcommittees charged with the encouragement of commercial interstate air transportation and mail service, is also a good indication of the breadth of the purpose of the bill.

Aviation has feared that some provision would be adopted in a bill of this kind which would have the effect of Americanizing aviation which the most regulation should be shown. Fortunately, the Bingham Bill has taken this situation into account and is clearly attempting to promote rather than restrict. In the last, before its final passage, is not amended, so as to change its purpose, a happy solution of the regulatory problem will have been reached.

The Polar Flight

THE ANNOUNCEMENT of a new Arctic venture in the proposed airplane flight across the North Pole, to be undertaken next spring, should arouse the greatest interest. That such a flight is possible, there would seem little doubt, but, the all-powerful undertakings, and as Arctic flight is so much to the role—some looking and a carefully prepared organization, are the basic materials, and with these, it would seem, the new proposed will be adequately provided. Undoubtedly, such a task, if of some-wide extent, are to be considered. Not only that they, as a result of their broad basis, a greater chance of success, but any consideration of more personal achievement, the one great force in every similar undertaking, is reduced to a minimum.

As to the value of such an expedition, it is interesting to note that the announced object of the flight is both to explore the Arctic region, as well as to prove the possibility of and extend across a flight across the northern extremities of the world. From the military standpoint, it is frequently pointed out that the shortest route to Asia from Europe and America is by way of the North Pole. This alone should provide a sufficient reason for such a flight as the one proposed. From the commercial standpoint, much development will be necessary before the polar routes are rendered available to the traveling public desiring to use airplanes or ships for travel between America and Europe. The proposed undertaking is highly commendable, but its greatest rewards will be in the field of exploration, rather than in providing a practical air route for the future.

The 1926 American Polar Flight

Airplane Flight Project to Leave Early in Spring

A NEW PROJECT for the conquest of the North Polar region by airplane, has recently been launched. The expedition, which is to be commanded by Capt. George Robert Wilkins, American explorer and aviator, will be under the joint auspices of the American Geographical Society, the British Aviation Society, and the North American Newspaper Alliance. The main object of the flight is not, primarily, to reach the North Pole itself, but to fly over the "Pole of Relative Inaccessibility," which is described as that point entirely free from any navigable waters; the central center of any so-called continent, which may exist in these regions.

Expedition for Scientific Purposes

The most reliable information on the plans project comes from the North American Newspaper Alliance. It is understood that the project has already been discussed completely and is directed by a board of control, headed by William B. Mayo of Detroit, General Manager of the Ford Motor Company. The scientific purposes of the expedition are abetted by the presence on its board of Dr. Joseph Keweenaw, Director of the American Geographical Society, Vilhjorð Stefansson, the explorer, and Capt. Wilkins. There was one of the chief scientific aims to reveal the location of the North Polar expedition.

Two airplanes will be used for the flight which will start from Point Barrow, Alaska, about March 1. The idea of an airplane flight from Alaska to the Ice Pole occurred independently and almost simultaneously to Wilkins and to Stefansson. Captain Wilkins was in London at the time and presented immediately to the United States to go over the proposal with various interested parties, including Dr. Keweenaw, Mr. Stefansson and representatives of the Detroit Aviation Society. Following a series of meetings in Detroit, in which Dr. Keweenaw, Mr. Stefansson, Walter Loring Pattington, general manager of the North American Newspaper Alliance, and Captain Wilkins participated, the expedition formally was organized and the Board of Control was named.

Discovery of Land Expected

Although it is not the primary purpose of Captain Wilkins, who will be in charge of the expedition, to discover land, it is generally expected that land will, in fact, be located for the first time by the flight. Reasons for this belief are mainly associated with the following facts:

First—The prevailing Arctic winds, as observed and recorded by many explorers, indicate the possibility that a high land point exists in the neighborhood of the Ice Pole.

Second—The Arctic tide, as charted by Barrow, the American cartographer, indicates the presence of a mass of land between Point Barrow and the geographical pole.

Third—The location of the earth's surface in other parts of the world, taken with general geological theories, makes it seem possible that land exists in the unexplored area.

Fourth—Birds, grubs, gulls and other birds have been observed flying northward, over the Polar Sea, from Alaska and Siberia, during the early summer. They have been observed returning with foodstuffs in late summer.

Fifth—Polar conditions, taken by several explorers, indicate that the water at the McEwen River, pouring to sea just under the Ice of Seward Sea, is divided by some land mass.

Sixth—Arctic whalers, who have returned from the edge of the Ice pack, believe that land exists somewhere

within that pack. Their reasons are mainly made up of reliable tradition, founded on the drift of the ice, the winds, the flight of the King eiders, the Ross gulls and the Hottelins gulls.

Some whalers have reported that they saw black seals which may have been land or may have been nothing but the black polar mice. "Keweenaw's Land" was on the maps for many years, but Stefansson, standing on the polar ice, took observations which showed that there was no land where Keweenaw's Land was supposed to be.

The Most Inaccessible Point

Stefansson tells the Ice Pole the "Pole of Relative Inaccessibility." It is, when considered from the old viewpoint of polar travel, the most difficult place to reach in the Arctic. It is the point most distant from all the points reached by ships, along the center of the frozen sea, into which as nature has no channel, the most of being at 50 deg. North longitude on the Ice Pole is some 54 deg. North latitude 180° W. It is revealed that, until recent years, all polar travel descended



The route over the north polar region is followed by the proposed expedition.

a ship for a base, it was apparent that it was really more difficult to reach St. Mark, 154 West, than it was to reach the geographical pole. And so the ice was reached. The Ice Pole is, as yet, the undiscovered pole.

Personnel of Board of Control

The Board of Control, which will govern the flight, consists of the following members: Chairman, William B. Mayo of Detroit, chief engineer and general manager of the Ford Motor Company; general manager, R. S. Brown of Detroit, engineer and explorer; Dr. Joseph Keweenaw of New York, Director of the American Geographical Society; Vilhjorð Stefansson of New York, explorer; Loring Pattington of

New York, general manager of the North American Newspaper Alliance; Capt. George Robert Wilkins, American explorer and pilot; Harold H. Emerson of Detroit, attorney and sportsman explorer.

No explorer has yet ventured toward the center of the Ice pack which exists between the Ice Pole and Point Barrow, although several have touched its edge. Percy, on his latest trip to the geographical pole, was on the opposite side of the system. So were Amundsen and Ellsworth on their coast polar flight. Stefansson started the sea pack in the "Fram".

Stefansson started it with his dog team and sledges. Captain Wilkins will take a crew of airplane riggers and mechanics to Fairbanks, the Alaskan railroad terminus, to assemble the airplanes. A group of pilots and mechanics will fly to the place in Point Barrow. It is expected that two airplanes will be taken to Point Barrow for flight purposes. Either or both may be used on the polar flight or flights. One of these, a Fokker three-engine plane, has already been secured.

Will Live Off the Ice

Captain Wilkins will rely on the Stefansson method of Arctic travel, to cross the expedition like it necessary to make a forced landing on the polar ice. That is, he will attempt to live off the ice.

Percy, Stanner and nearly all others thought it necessary to carry sufficient food and equipment for a two-way journey, whenever they ventured out across the frozen polar sea. Amundsen, in general, has always followed the Percy method. He says he does not believe it possible for men to make their living from the ice. The Amundsen-Stanner plan was into the Arctic carrying enough supplies of food per man. They carried tents, sledges and a dozen boat, also.

Sink Under the Ice

Stefansson, on the other hand, has proved that there was more under the Arctic ice. He and Wilkins have examined the three methods by which seals may be taken and have proved that birds are not any one and most close. Captain Wilkins will fly "light". He will carry enough food per man to sustain life for only two weeks, the major part of the weight carried being gasoline.

The members of the expedition expect to leave Detroit by rail in January and proceed to the West Coast, thence to Seattle by steamer and on to Tacoma, Alaska, by rail. The planes will be shipped at Tacoma and flown from there to Barrow. The complete personnel of the expedition has not yet been decided upon.

Temple N. Joyce Joins Curtiss

Announcement is made of the engagement of Temple N. Joyce to a woman in the Sales Department of the Curtiss Aeroplane & Motor Company, Inc.

Mr. Joyce is well known in aeronautical circles both in this country and abroad. He received his aeronautics diploma from the Curtiss School of Aviation in 1917. The year following he was Assistant Chief Test Pilot at Issoudun, receiving his certificate in 1918.

Since the war he has continued his interest in aeronautics as a reserve military aviator and for a number of years has represented Curtiss-Spencer in the country.

Mr. Joyce was one of the organizers of the Schneider Cup Race in Baltimore this year.

Curtiss Lark Makes Long Flight

A Curtiss "Lark," with Wright 14, 200 hp engine, equipped with two in-flight ailerons, which was delivered to the Florida Airways Corp. on Dec. 8, recently completed a 2,000 mile flight. The itinerary was from Ocala City, Fla., to Miami, Fla., across that state to Ft. Myers, Fla., and return to Ocala.

Major Rood Chambers, President of the Florida Airways Corp., who made the trip in the "Lark," has expressed himself as highly pleased with the performance of the plane and particularly its ability to get in and out of small fields. He says, the Wright 14 engine gives the plane a cruising speed of more than 200 m.p.h. and that the engine required practically no attention during the trip, although for over a 1,000 miles, ordinary maintenance was needed. He reports also using only two quarts of oil from New York to Miami, Fla., while the average gasoline consumption was 15 gals. per 100 miles.

The Strength of the British Air Force

The General House, British Secretary of State for Air, has issued a statement in Parliament as to how many airplanes were really fit for flight on war or emergency service, and that the present distribution of the flying units of the Royal Air Force with an average of twelve machines for each squadron, was twenty-five per cent. of the total number of machines with the first, and eighteen and one-half squadrons at stations outside the home country. This is 604 airplanes, in all.



In recent years this

is considered one of the British Royal Air Force. The "Camel" flying boat, equipped with two Sopwith "Lark" engines. The hull is constructed mainly of aluminum, while struts and jacks a place in the construction. The airplane is said to be very maneuverable.

New French Load Carrying Altitude Records

Latest Farnes 2000 Horsepower Giant Plane

NEW load carrying records have been set up by Louis Boudier, the well known French airplane pilot, flying a Farnes Super Colibri, type F-10, No. 5. The records were made during two flights carried out on November 24 and 25, respectively, from LaBouquet aerodrome, the airport of Paris.

On the first flight, the plane carried a load of 5,000 kg. and achieved an altitude of 5,000 m. (15,454 ft.). It took 1 hr. 34 m. to attain this height, while the total flight lasted for 2 hr. 15 m., 34 sec. Incidentally, the airplane, in taking off with this load, rose 100 m. (328 ft.).

World's Record Broken

The world's record broken by this flight were:

Duration, carrying 1,000 kg. (former record 2 hr. 35

min. 30 sec.)

Duration, carrying 2,500 kg. (former record 2 hr. 35

min. 30 sec.)

Duration, carrying 3,000 kg. (former record 2 hr. 47

min. 10 sec.)

Duration, carrying 3,500 kg. (former record 2 hr. 47

min. 10 sec.)

Altitude with 3,000 kg. (former record 4,475 m.)

Altitude with 3,000 kg. (former record 3,915 m.)

Altitude with 4,000 kg. (former record 3,155 m.)

Flights begun on November 24, further records were made. This time the plane carried a load of 5,000 kg. and attained a maximum altitude of 5,500 m. (18,045 ft.) in 52 min. The complete flight lasted 1 hr. 12 m., 24 sec. and upon the distance run by the airplane in taking off, it is of interest. On this occasion this distance was 150 m. (524 ft.). Four records were broken by this flight, namely:

Duration, carrying 3,000 kg. No previous record

Duration, carrying 3,000 kg. " " "

Altitude, carrying 3,000 kg. " " "

Altitude, carrying 3,000 kg. " " "

The record set by Lt. H. H. Harris, flying the Bunting Bomber at Dayton, Ohio, 1923, when 3,000 kg. of ballast were carried and the flight lasted 2 hr. 50 min. 11.4 sec. will be equalled in the previous. Anytime after this the world's record.

These new records have not yet, however, been officially recognized by the F.A.I.

The Airplane

The machine in which Boudier flew, is one of the latest products of the Farnes company, and was exhibited at the last aviation show in Paris. It is a characteristic Farnes type (recently) airplane with four engines mounted in tandem pairs on the lower wing, one each side of the fuselage. It is essentially a bombing plane although doubtless the type

would, if it has not already been done, be adapted to passenger airplane work.

The Navigator's Cockpit

The forward cockpit, right up to the nose of the fuselage, is arranged for the navigator. Not only is this compartment equipped with a normal type of cockpit but at the top, but the navigator may observe inside the compartment where an observation window opening outward to the nose of the fuselage, gives a very clear view forward and downward.



The pilot's cockpit of the Farnes "Super Colibri"

Navigating facilities are provided in this compartment in addition with launch instruments, etc.

Further back in the fuselage, behind the navigator's compartment, is the pilot's cockpit. This is equipped with dual controls for two pilots and a complete set of instruments. The pilot's seat is wide, high up to the fuselage, with ample view, though protected behind a well arranged wind screen. The pilot's cockpit is reached through a door leading to it

from the compartment further back in the fuselage. In this compartment, which is very roomy, the radio apparatus is located. The engine are Farnes, type 24 G R, developing 500 hp.



The navigator's compartment showing the observation window opening forward

at 2,130 r.p.m. They drive two tractor and two pusher propellers, in tandem pairs, all the four propellers being four blade types. Start type Lebedev engines are employed.

The general details of the plane are:

Wing span	111.00 ft. (33.93 m.)
Wing area	1,110.00 sq. ft. (102.14 sq. m.)
Wing loading	22.50 lb./sq. ft. (1.10 kg./sq. m.)
Wing weight	24,900 lb. (11,293 kg.)
Wing span	111.00 ft. (33.93 m.)
Wing area	1,110.00 sq. ft. (102.14 sq. m.)
Wing loading	22.50 lb./sq. ft. (1.10 kg./sq. m.)
Wing weight	24,900 lb. (11,293 kg.)

Bettis and Dosliette Air Records Retained

The International Aeronautic Federation has ratified new records the performances of Lt. Cyril Bettis, Air Service, in winning the Pulitzer Prize at Miami Field and Lt. James H. Dosliette, Air Service, in winning the Schneider airplane trophy at Baltimore.

Londoner Bettis, in the Curtiss Hawk, averaged 206 km. at a speed of 249.537 m.p.h., and 180 km. at 245.979 m.p.h. (Londoner) Dosliette, flying the same machine fitted with pistons, averaged 168 km. at 234.772 m.p.h. and made a maximum straightaway speed of 245.713 m.p.h.

Belgrade Aero Exhibition

The airplane exhibition organized by the Belgrade Aero Club was opened recently.

The exhibition showed types of airplanes which represent the development of aviation from early days. In contrast with the Wright type 10, there was the positive and hunched Blériot which took part in the Paris-Toulouse race of 1909. From the Japanese warships were shown two types of Brandenburg airplanes, one made by the Brandenburg Airplane Construction Works, and the other by the Aviation Division at Novi Sad.

A Plea For Jacob Riis Park

To THE EDITOR, AVIATION:

I write in your issue of November 20th, that the aviation show at Jacob Riis Park on the Rockaway Peninsula which has been used since the war as a naval base and aviation field, has been donated back to the Navy by a unanimous vote of the commissioners of the Battery Park of New York City, and I currently ask the privilege of your page to put in a plea that the use of this aviation base shall not occur with the disposition of the Navy Department.

New York is at present the greatest center of commerce on earth and ought to remain so. It is probably the greatest source of human progress.

It is probable that if an act of something ever occurs in the history of the world, it will be the case of Greater London, was to be set off and including what is now New York, a reasonably compact area could not be set off which would include a greater population than the population of Greater London.

One half of all the passengers that fly in Europe are Americans.

There are probably more privately owned and used machines in this country than in all the rest of the world put together, yet we lag behind in the matter of commercial airlines, of airways and airways and as the regular transportation of freight and passengers on schedule time ever established routes.

The mouth of the Hudson River and its northern passage incomparably greater physical and commercial advantages as a center of air service than does the City of London. An expense of water adequate for the sea and descent of planes can be found Air near the center of New York than in the center of London. From New York an immense transportation in airplanes and airplanes can be carried on over thousands of miles of coast line without touching any political boundary, and there is every reason to expect that the air commerce of America will preponderate, not only over the air commerce of Great Britain, but over the air commerce of the whole of Europe including Great Britain, as does now our railroad traffic over the railroad traffic of the whole of Europe, including Great Britain.

There is every reason to expect that a considerable air traffic along the coast in such direction from New York, if a reasonable effort is made on the part of the citizens of New York to give their city the largest possible air traffic, including the fact that it is now going to be the most developed commerce and method of transportation that can exist on the planet. Now is the time to act. We therefore urge that the City of New York take every step properly, and the general purpose, but for the specific purpose for which it has been raised since the World War. That they fit it up as an aviation base, both for land planes and for airplanes. That they take every step properly to obtain other air ports also, within reach of the citizens of New York, in the near future, it is going to take many fields, and have fields, and great facilities, to accommodate the air traffic that is coming. Needed to be located in New York, and to postpone the growth of air traffic in New York, and any such great new air traffic center on the Atlantic coast based on a start already in progress in the form of the New York as the greatest center of commerce in the world.

Commerce wars in our hands. There are fifty planes that can easily be made that have greater relative advantages as centers of commerce than the City of London, and we can then all bring the City of Constantinople, a magnificent monument of a gigantic Byzantine civilization, incorporated into a new center of Turkish life.

Let not New York receive her prosperity and her birthright by neglect of this new aviation now just beginning which will, within the lifetime of those now living, overthrow the whole earth.

Signed,

George L. Gano,
Franklin, N.Y.A.



General view of the Farnes "Super Colibri"

The Powell Racer

A Light Plane Incorporating Many Excellent Features of Larger Designs

THE PLANE was designed for the 1934 air race and work on the design was started as soon as the announcement of the light plane race was made. The engine was ordered late in March, 1933. Owing, however, to the British two-seater competition, absorbing all the available Bristol "Clermont" engines that year, it was not until considerably after the year was over that the engine arrived.

The design of the plane is now nearly eighteen months old and is considered by the designer to be somewhat heavy, although showing up very well. It is, however, not a difficult matter to cut down the weight very materially in an improved design. Throughout the design of the Powell "Racer" every situation was paid to careful consideration and fitting.

The Wing Structure

The wings call for no special comment being of conventional construction, except that the wing tips for the streamlined wire are placed inside the wing, thus being the arrangement where the streamlines was shown its true advantage. The bending of the fittings is so easy made and probably has never been attempted before in such a small thickness of wing—about 3/16 in. in the rear spar, and 1/8 in. in the front spar. The design of the fittings was such as to allow the wire to swing in all directions, thus giving it a direct pull without any bending at the fittings. The top wire was built in one piece with the dihedral built in and not bent. Splicing was not necessary as the spars are under 14 ft.

Load Factor Considerations

Conventional stress analysis was made of the wing and all factors bearing important loads. It is considered that the load factor should be at least as high for small planes as for large ones, as the considerations met with are considerably greater in the small plane and give rise to loads difficult to estimate accurately. The question of landing small parts

in the shape also enters into this matter to some extent. Bombardments sometimes occur unexpectedly and must be remembered when tightening up the wings.

The wings have 3/4 strain between them, and, nearly on account of these 3/4 strain, the wings severely over and being up. They seem to come right whenever the plane is set up.

The plywood fuselage was built on 3/4" plywood formers, set in the designed shape. In setting up, these formers were held in correct position by a large wooden jig. A jig was used for the chassis parts when they were being welded. These jigs will remain for the labor expended upon them.

The Power Plant

The engine, a Bristol "Clermont" is rated at 30 hp, was chosen, owing to the fact that there was, at the time of the design, no American engine of low horsepower available for light planes. The mounting is conventional. It was realized that the engine plate for a two cylinder engine needs to be made almost as heavy and strong as for a multi-cylinder engine of much greater horsepower. The reason for this is that owing to the merits of compressing parts at high speed on a two cylinder engine, a very factoring mechanical torque arises. The torque reaction was worked out for such an opposed cylinder engine and found to have a negative value, during part of the cycle. The shape of the engine-mounting is question is that of a transverse bracket, attached very securely in the longitudinal. Apart from torque reaction, a necessary feature of any two cylinder engine, the twin opposed engine is almost perfectly balanced and, at 3,200 r.p.m., runs very smoothly.

For simplicity and cheapness all levers, brackets, bell cranks, etc., in the plane, were designed to be made out of one piece and bent to correct shape, without welding. The sketches show how this has been done in certain instances.

A tailboom was fitted into the wood shell, as there was

neither else far it to go, some difficulty being experienced in finding room for the tailboom tube and the oil gauge pipe with the 8 pulley tube in oil line line. For the case at Mitchell Field, however, a new tank was made of only 3/16 gal capacity.

The Undercarriage

The chassis is of the Vee type with a solid axle. The vertical down was being designed in this case as the steel track is simply rigid enough to take care of loading. It is noticeable how many designers of contest cars, make their axles too weak, so that they deflect considerably and take a permanent set in loading. This can be avoided by making a simple calculation of the deflection of the axle tube. A divided axle is naturally a much better arrangement. The shape of the radian and structure are made of leather which is a subject of a novelty and must to work out all right. A sketch shows how it is inserted.

Specifications

The general dimensions and performance figures are given in the accompanying table:

Length overall	24 ft. 0 in.
Wing span	20 ft. 0 in.
Wing area	200 sq. ft.
Wing loading	15 lb. per sq. ft.
Wing tip chord	10 ft. 0 in.
Wing root chord	10 ft. 0 in.
Wing thickness	3/16 in.
Wing material	Aluminum
Wing structure	Aluminum
Wing fittings	Aluminum
Wing bolts	Aluminum
Wing nuts	Aluminum
Wing washers	Aluminum
Wing spacers	Aluminum
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suggested recently that I haven't stolen any of these inventions and given risk from them.

Some time ago a man wrote asking the conditions and value of a plane he had seen advertised for sale. He had stood out in all weathers on a Cleveland field for nearly a year and was ready for the jack man, at any place ever was. "Do you consider it a good lay?" he asked. I didn't want to say a word against the plane, so I replied:

"Dear Sir:

Reference model mentioned in your letter, I beg to advise that I have entirely expended my 1935 appropriation for letters.

Cordially yours,
Cy Caldwell"

And he never even made thinking me for spending time and a postage stamp on him.

Well, I've thought my last stamp. Hereafter I'll answer correspondence through the kappy members of "Aeromane" and let L.O.G. pay the postage. Here's a letter I got today without a return stamp. For all out of stamps, or I'd answer you one by one.

Dear Mr. Cy Caldwell:

I have read with interest your current and various articles in AVIATION. They have been a great help to me. Any time that I felt the light-headed and grey, I have been in the habit of turning to your column, and experienced so difficulty in getting depressed at once, and I hear that many people have been helped by you, just as I have been. To me, your writings are a solid rock in a sea of light and frothy literature, such as the Army and Navy Goggles printed at the back of AVIATION.

I am sixteen years old—and realize my picture to prove it—and I have a great interest in flying. I should love to become a pilot, if you would take me as your student—or what have you? I should love to study flying with you, if possible, and believe I should learn quickly. Shall I come?

Sincerely yours,
Lena Levine

Pottsville, Pa.

My Dear Miss Levine:

Or may I say, "my dear Lena"? It is so much more friendly, is it not? I am charmed by your kind letter and your picture, really charmed, Lena, not be child. To one of my age it is indeed refreshing to receive the approval of the young, especially when beauty is combined with youth, as in your fair self.

Of course you may come, my dear. Pick up and—Don't want to pick? Come just as you are? I'll look after you like a grandmother—you'll hardly know the difference—I have with a kindly, sweet old face. Little children come running to me on the street saying, "What big teeth you have, grandpa!" So—this little Red Riding—don't matter. I feel strongly content today; it must be the weather, or something. I just love your picture—it is like me when I was your age. How beautiful, of course. But I never like look of romance, you know? Dear, dear! What a child I was! Always in mischief, of course, but a charming little fellow, nevertheless. But here I run on. Come as soon as you can, my dear.

Your affectionate instructor,
Cy Caldwell

Merchandising in a New Field

By M. J. McINANEY

Assistant Sales Manager
Alexander Aircraft Co., St. Louis

"Anything that can be sold, can be profited." This has not been true regarding commercial aviation up to date. At the ground line, the manufacturer who has been a good pilot at a low price is assured of a ready market. This condition is attracting many into the manufacture of commercial planes and almost every week or two we see a new plane advertised in AVIATION.

The strength manufacturer and dealer of the future, will have to employ intensive methods of merchandising in order to create and maintain a satisfactory volume in the face of keen competition.

Realizing the problem in merchandising the lightplane, a company has been planned for visiting dealers, that is a new departure in this field.

The Alexander Industries have been successful in several previous projects and have developed a large staff of merchandising experts and a force of salesmen who spends in every state in the union, and who are leading customers to the organization of a dealer force throughout the country.

Cooperating with Dealers

Various methods of dealer cooperation have been adopted, as neither in part or whole, follow:

An aggressive advertising campaign using several different methods is already under way. Very good results have already been obtained. This campaign will be extended with volume of production.

Another dealer help will consist of an advertising and merchandising bureau which will assist dealers in conducting their own business in a more profitable manner. For instance, a dealer is engaged in the general business. The Alexander Aircraft Company by means of its merchandising bureau will assist the groups in increasing his sales and service. He will through increased profits become a better Alexander representative.

A clause in the dealer contract requires the writing in to the house office of notes and addresses of all prospects introduced by the dealer. These prospects will be followed up by an intensive and energetic from the house office and kept interested, thus avoiding increased sales to dealer without credit out to him.

A dealer will also be visited by flying sales promotion men, who will demonstrate and help him out in his territory, dealer getting full commission on all sales made in this manner.

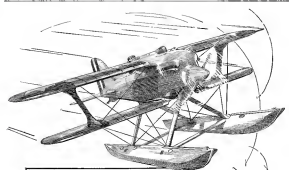
Training in Salesmanship

Plans are under way to turn out a sales course and sales manual for the use of dealers and their salesmen. Anybody who wish to become salesmen will be instructed in up to date methods of selling and salesmen who desire to become aviators will be given a course in flying. In this way a force of aggressive aviator-salesmen will be created.

Various other methods of dealer help will be used, such as Commercial Club representation, mutual training school instruction and night courses.

Dealers will also be advised of successful means of increasing their income through telephone selling, photographic work, mapping, crop dusting, raising poles in trucking, driving, taxi service, advertising and all the various ways in which an airplane can be used to advantage. A fully satisfactory service is being prepared for the Alexander Film company to popularize commercial aviation.

The new or company selected must be active, progressive and capable of winning the sympathy of the field they are entering. They must realize that the greatest risk comes from being so popular as the unobtainable, a necessity instead of a luxury. The manufacturer and dealer who is prepared to handle it on this basis is the one who will be the leader in commercial aviation.



The Schneider Cup Winner was Valsparred!

WINNING the Pulitzer 1925 Trophy and smashing the world's land plane record for a triangular course was not enough glory for this Curtiss army racer.

Two weeks later—equipped with a pair of floats—it won the Schneider Cup Race as well. Piloted by Lieutenant James H. Doolittle, it covered the 350 kilometer course at the rate of 232.573 m.p.h.—more than 33 m.p.h. faster than England's challenging seaplane.

Then to cap the climax this veteran champion, the very next day, established a new seaplane record of 245.715 m.p.h., official time, over a three mile course.

This Curtiss Racer is Valsparred, of course! For the Curtiss Company long ago discovered that Valspar is the one varnish that can safely withstand the terrific ordeal of airplane service!

VALENTINE'S
VALSPAR
The Varnish That Wins Two World

Aviation in the Riff

The Cooperation of Airplanes with the French Military

THE French operations against the Rifians in the North of Africa have been somewhat different in form or execution than elsewhere, due, mainly, to the extremely broken nature of the country, the lack of any means to attack and the fact that the friendship with, rather than the hostility of, the native tribes was being sought after—a fact which limited bombing operations. Furthermore, communications were from the first fast, friendly and hostile tribes, as well as the actual soldiers, all depended alike. Moreover, published extracts from the report of the command of the 35th, important, show what an extremely important part aviation played in the war with the Rif.

Supplies Carried in Flight

The report covers the period from April to the end of June. At this time, the Rifians suddenly were so restless and menacing that the French black houses. In extreme cases it was impossible for the French columns to get in and after relief and it was left to the aviation service to bring the mission with the entire world. Thirty aircraft were ordered during the first half of the month and, by the end of the month, only two had not been ordered. Supplies had run out in them and were brought in by plane. Water, in the form of tea, food, ammunition and medical supplies had to be brought in, and, as some of the posts were less than 60 feet in diameter, the planes had to come down to within from 50 to 150 feet of the ground in order to drop their loads, this being, of course, extremely hazardous work.

In many cases the heaviest post called for the releasing the enemy military which was successfully accomplished several times. A very fine and one of the heaviest posts which had thus required help, made "Excellent work of variousness stopped a big attack on Aoudia, enemy artillery advanced some 5 to 10 mts." Both bombing and machine guns were used in attacking gatherings which were concentrating against the outposts.

Heavy Bombardments

For the protection of the fronts of columns marching on objectives, regular bombings were laid down by planes flying at intervals of two minutes. There were also a large number of bombs carried on special enemy posts and blockhouses, especially during the month of June. On June 8, thirty-three bombardments at Bou Hadad, resulted in 200 casualties, according to the information received. Further, on June 8, twenty-five bombardments resulted in twenty casualties, and on June 22, ten bombardments resulted in over 600 casualties and, according to the religious, destruction of the population.

Observation Planes Used

Breguet, type 11A2, machines were the only planes available in Africa during the first month. This is really a two place observation plane and not a bombing plane but, however, was adapted to the service. Finally, as there were no pilots, were used during the day, but at night none of these

SPEED WITH SAFETY

Curtiss



THE LARK IS NOW IN SERVICE

See what Major Reed Chambers, President of the Florida Airways Corporation writes us:

"I may interest you to know that I have just completed a two thousand mile trip from Garden City, Long Island, to Miami, Florida, across the state of Florida to Ft. Myers, and return to Detroit, in the Curtiss Lark which was delivered to us on December 1st.

"I am very enthusiastic over the performance of the plane and I believe it to be the most modern plane of its type in existence. I wish to compliment you particularly on the strength of the landing gear and the ability of the plane to get in and out of small fields. Its stability is also remarkable.

"A word also about the motor. The Wright J-4 100 HP gives the plane a cruising speed of better than 100 m.p.h. The motor had practically no vibration on the trip and for over one thousand miles of the trip, ordinary automobile gas was used. We used two quarts of oil from New York City to Miami, Florida, and an average of one hundred miles to thirteen gallons of gas.

"I believe this plane has no endogenous problems from either a training or commercial standpoint."

This is but one of the Lark series. In addition to the J-4 100 HP air cooled motor installation, the Lark is built with either the 180 HP Hissco motor or the Curtiss C-6 160 HP motor, giving a range of performance suitable for varying types of commercial flying and for military training purposes. For water flying the J-4 machine is furnished with pontoon equipment.

The Lark has been developed with particular attention to inexpensive production and maintenance. Our prices will interest you.

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More Wright Engine Successes

At the close of 1925 many varied and excellent flights were made by the Wright air cooled engine. This time it is truly truly where the famous Corps del Mar plane was for a record place powered with a Wright "Gale" 50 hp. air cooled engine. The efficiency formula for comparing power for the Corps del Mar is different from that used for efficiency runs in the United States as it introduces the time of maximum speed to maximum speed as well as produce a lot of maximum. This Corps del Mar plane is generally for small planes carrying one passenger in addition to the pilot, the formula used being as follows:

Efficiency Score equals Average Speed (in km/hr.) X 175 (Divided by weight of pilot and passenger) X Maximum Speed — Total consumption (gallons and oil) and the Maximum Speed

The plane powered with the Wright air cooled engine scored 238.20 points. The score for record plane was 242.8 points. The Wright air cooled engine, therefore, scored 24.0 per cent greater efficiency than the record engine. We show that this performance of the Wright plane is well in line with the exceptional performance of the Wright Reformer plane powered with the Wright "Gale" 50 hp. air cooled engine, is the efficiency runs of the New York Air Races, it will be recalled that the efficiency figure for the Wright Reformer plane was 53 per cent more than the score of the next competitor.

The other efficiency run in 1925 in which the Wright air cooled engine showed its real way the "Vanguard Germany Flight" in which a Wright "Gale" 50 hp. engine fitted in a Remond monoplane scored a sensational success. The high score of Wright air cooled engine in efficiency runs not only in the United States but abroad, is another proof of the advantages of these engines for greatest economical work.

The Collier Trophy for 1925

Attention is called to the fact that the Collier Trophy Committee, for the year 1925, is as follows: Oswald Wright, Gen. W. Lewis; Godfrey L. Cabot; Earl S. Plesley, Porter Adams.

This committee will meet in January, 1926, to consider the claims submitted by it in connection with the Collier Trophy award, and notification is given that all developments referred for consideration by the committee must be received at N.A.A. headquarters on or before Jan. 15, 1926.

The procedure of the work of gift governing the award of this trophy is as follows:

THE COLLIER TROPHY, donated by Robert J. Collier, Esq., to be awarded annually by the National Aeronautics Association for the greatest achievement in aviation in America, the value of which has been thoroughly demonstrated by actual use during the preceding years.

A record of the awards to date is appended.

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PUBLISHER'S NEWS LETTER

Two bits of news from England have created great interest among those who are following the American aeronautical affairs. One stated "The first year of Imperial Airways, Ltd., the new trust of all the British flying companies, resulted in a loss of more than \$400,000.00." The net loss was \$450,000.00, the remainder being covered by Government subsidy. The annual subsidy, however, will be \$450,000.00 and the company will open a service between Egypt and India, with a connection between England and Egypt." This delightful forecast of the British airline should be kept in mind by everyone and related to those enthusiastic Americans who, when they return home abroad, pass with loud praise to the commercial passenger service and speak disparagingly of American lack of enterprise. If every aeronautical writer and speaker will emphasize the fact that we lead the world in aerial service and intend to make no transport profitable rather than a spoon-fed enterprise, they will assist in correcting a very serious misapprehension that has grown to great proportions in this country.

Another interesting point is made in that indispensable paper, "The Aeroplane," which reports a meeting held at the Royal Aero Club. The subject discussed was "American Aviation." Mr. C. G. Grey gave a summary of the speech of Mr. C. H. Paine, the British aircraft constructor, who has caused considerable excitement in England by accusing the rights from the Central Committee of manufacturing Curtiss engines and Royal postoffice for the Air Ministry. The particular part that interested us most was that on the effect of regulation of aircraft in England. It was as follows:

"As to private flying, as distinct from subsidized air line flying, we are far behind the States. Here we have only one or two hundred privately owned machines at the Pilotage Trophy contest and the owners of these machines regarded them as a sort of toy transport. As we Americans used to look on the subject, they had no control over aviation but a hell of a lot of fuss."

"In England one has to get certificates for everything. That was what made English aeroplanes fly the horizon fly so. But if English aviation wanted to take his best go to Brighton by air he had to get up a certificate for himself and put in his three blooming nervous out of a tube (to prove his bone power). And then when he had got his airworthiness certificate for himself and his machine, he had to wait for a ground engineer who, having certified the machine

as thoroughly before it left Croydon, had to go to Brighton and certify that it was fit to fly back again."

"The American idea was that flying was better than coasting."

The slogan "Flying, better than coasting" may be adopted with advantage in some quarters in this country. If it were not for the fact that the Baghdad Bill was intended to promote flying rather than to regulate it, we would not be for it. We heartily approve of not having a special Bureau in the Department of Commerce. There are too many bureaus already. We are given to understand that the bill will be enforceable only when as previous action to initiate flying. Senator Bagshaw in a letter to AVIATION put the matter succinctly, when he wrote:

"We hope that, after the Department of Commerce has learned and increased those pilots and airplanes which are to engage in interstate commerce, the pilots so licensed will advocate their federal license and that the public will gradually come to regard those pilots and planes which have not a Federal certificate as an equally good State certificate."

This is not only sound, but avoids the question of the constitutionality of regulating interstate flying. No one disapproves of regulation. It is the kind of regulation that may be put into effect, that is feared. Federal interstate flying, interstate and regional, is the starting point, and this is all that Senator Bagshaw's bill attempts to do. State regulation of intrastate flying and an opportunity for federal inspection will do two things. It will under the Department of Commerce control act to have the rules two-fifths and, on the other hand, will make the ownership of a Federal license a valuable commercial asset.

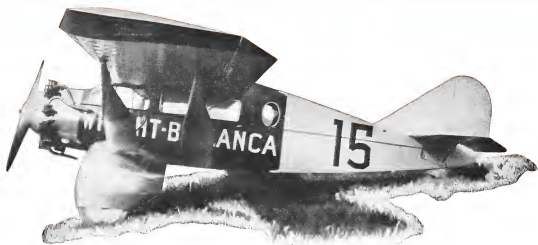
The objectionable parts of all previous recommendations have been the compulsory nature of the bills. All aircraft and all pilots were to be licensed, with heavy penalties for any infraction of a long list of offenses. The Bagshaw Bill removes the whole process in such a way that all objections should be withdrawn. There is a lapse "But" and "If" that is attached to our endorsement of this law. As it stands, it means what it says, but amendments are so easy to make it means something entirely different than, and it pains the House and they pass through the conference committee, it should be watched with the keenest interest.—J. D. G.

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WRIGHT-BELLANCA SIX SEATER

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WRIGHT WHIRLWIND 200 H.P. AIR COOLED ENGINE FOR COMMERCIAL SERVICE

WRIGHT-BELLANCA EFFICIENCY

With 1000 pounds pay-load, the Wright-Bellanca won the Efficiency Race at the New York Air Races—scoring 53% more points than the nearest competitor. With full load this plane makes 132 miles per hour, has a landing speed of 42 miles per hour, climbs 900 feet the first minute. It cruises easily at 100 miles per hour, using only 115 of its 200 horse power. At cruising speed the gasoline consumption is 12½ gallons per hour, or 8 miles per gallon. Rugged construction with high safety factors; ample cargo space—122 cubic feet in cabin; comfortable accommodations including cabin heaters, excellent vision for both pilot and passengers; all make for commercial efficiency. For detailed information write for Bulletin No. 14.

Orders for Wright-Bellanca planes are being taken now for deliveries early in the spring. The price complete with Whirlwind engine is \$12,000 f.o.b. Paterson



WRIGHT-WHIRLWIND ECONOMY

For commercial service where reliability, durability and economy are essential, consider an engine so reliable that Cuban pilots in land planes constantly fly to the Isle of Pines over 40 miles of ocean. An engine so durable that Huff-Daland Dusting pilots flew 14 of them throughout their season without even uncrating their two spare engines. So economical that commercial air lines are using them in preference to motors of lower first cost. Such performance is justified by the years of continuous improvement, by the wealth of practical experience gained in producing hundreds of these engines, by the elimination of water cooling troubles, and by the Wright Aeronautical Corporation—the largest manufacturers of aviation engines in America. For detailed information write for Bulletin No. 8.

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